

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

*Amendments*

*In the Claims:*

Please substitute the following claims 21, 36-38, 40, 43, 58-60, 62, 65, 79-81, 83, 86, 93-95 and 97 for the pending claims 21, 36-38, 40, 43, 58-60, 62, 65, 79-81, 83, 86, 93-95 and 97:

21.(Once amended) An isolated polynucleotide comprising a nucleotide sequence encoding a glucuronyl C5-epimerase capable of converting D-glucuronic acid to L-iduronic acid, the amino acid sequence of which is at least 95% identical to a reference amino acid sequence selected from the group consisting of:

- (a) amino acids 1 to 45 of SEQ ID NO: 13;
- (b) amino acids 25 to 45 of SEQ ID NO: 13;
- (c) amino acids 74 to 86 of SEQ ID NO: 13;
- (d) amino acids 77 to 97 of SEQ ID NO: 13;
- (e) amino acids 25 to 444 of SEQ ID NO: 13;
- (f) amino acids 1 to 444 of SEQ ID NO: 13;

- (g) SEQ ID NO: 2;
- (h) SEQ ID NO: 3;
- (i) SEQ ID NO: 4;
- (j) SEQ ID NO: 5;
- (k) SEQ ID NO: 6;
- (l) SEQ ID NO: 7 and
- (m) SEQ ID NO: 8.

36.(Once amended) The polynucleotide of claim 21, wherein said amino acid sequence is selected from a member of the group consisting of SEQ ID Nos. 2, 3, 4, 5, 6, 7 and 8, and wherein said polynucleotide encodes a fusion protein.

37.(Once amended) The polynucleotide of claim 21, wherein said amino acid sequence is selected from a member of the group consisting of SEQ ID Nos. 2, 3, 4, 5, 6, 7 and 8, and wherein said polynucleotide encodes a polypeptide with a deletion of the N-terminal, C-terminal or internal regions.

38. (Once amended) A vector comprising the polynucleotide of claim 21.

40.(Once amended) A host cell comprising the polynucleotide of claim 21.

43.(Once amended) An isolated polynucleotide encoding a glucuronyl C5-epimerase capable of converting D-glucuronic acid to L-iduronic acid and which

hybridizes under the conditions of incubation at 42° C in a solution comprising: 6x SSC, 5x Denhardt's solution containing 0.1% SDS and 0.1 mg/ml denatured salmon sperm DNA, followed by washing in 2x SSC and 0.5% SDS at 42° C, to a polynucleotide encoding a polypeptide selected from the group consisting of:

- (a) amino acids 1 to 45 of SEQ ID NO: 13;
- (b) amino acids 25 to 45 of SEQ ID NO: 13;
- (c) amino acids 74 to 86 of SEQ ID NO: 13;
- (d) amino acids 77 to 97 of SEQ ID NO: 13;
- (e) amino acids 25 to 444 of SEQ ID NO: 13;
- (f) amino acids 1 to 444 of SEQ ID NO: 13;
- (g) SEQ ID NO: 2;
- (h) SEQ ID NO: 3;
- (i) SEQ ID NO: 4;
- (j) SEQ ID NO: 5;
- (k) SEQ ID NO: 6;
- (l) SEQ ID NO: 7 and
- (m) SEQ ID NO: 8.

58.(Once amended) The polynucleotide of claim 43, wherein said amino acid sequence is selected from a member of the group consisting of SEQ ID Nos: 2, 3, 4, 5, 6, 7 and 8, and wherein said polynucleotide encodes a fusion protein.

59.(Once amended) The polynucleotide of claim 43, wherein said amino acid sequence is selected from a member of the group consisting of SEQ ID Nos: 2, 3, 4, 5, 6, 7 and 8, and wherein said polynucleotide encodes a polypeptide with a deletion of the N-terminal, C-terminal or internal regions.

60.(Once amended) A vector comprising the polynucleotide of claim 43.

62.(Once amended) A host cell comprising the polynucleotide of claim 43.

65.(Once amended) An isolated polynucleotide, or an isolated complementary polynucleotide, which encodes a polypeptide having glucuronyl C5-epimerase activity and capable of converting D-glucuronic acid to L-iduronic acid, and which hybridizes under the conditions of incubation at 42° C in a solution comprising: 6x SSC, 5x Denhardt's solution containing 0.1% SDS and 0.1 mg/ml denatured salmon sperm DNA, followed by washing in 2x SSC and 0.5% SDS at 42° C, to said isolated polynucleotide selected from the group consisting of:

- (a) nucleotides 73 to 207 of SEQ ID NO: 12;
- (b) nucleotides 73 to 1404 of SEQ ID NO: 12;
- (c) nucleotides 73 to 3085 of SEQ ID NO: 12;
- (d) nucleotides 145 to 207 of SEQ ID NO: 12;
- (e) nucleotides 292 to 329 of SEQ ID NO: 12;
- (f) nucleotides 301 to 362 of SEQ ID NO: 12;
- (g) nucleotides 145 to 1404 of SEQ ID NO: 12;

- (h) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (i) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (j) nucleotides 1 to 3085 of SEQ ID NO: 12;

79.(Once amended) The polynucleotide of claim 65, wherein said polynucleotide sequence is selected from a member of the group consisting of

- (a) nucleotides 73 to 207 of SEQ ID NO: 12;
- (b) nucleotides 73 to 1404 of SEQ ID NO: 12;
- (c) nucleotides 73 to 3085 of SEQ ID NO: 12;
- (d) nucleotides 145 to 207 of SEQ ID NO: 12;
- (e) nucleotides 292 to 329 of SEQ ID NO: 12;
- (f) nucleotides 301 to 362 of SEQ ID NO: 12;
- (g) nucleotides 145 to 1404 of SEQ ID NO: 12;
- (h) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (i) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (j) nucleotides 1 to 3085 of SEQ ID NO: 12;

and wherein said polynucleotide encodes a fusion protein.

80.(Once amended) The polynucleotide claim 65, wherein said polynucleotide sequence is selected from a member of the group consisting of

- (a) nucleotides 73 to 207 of SEQ ID NO: 12;
- (b) nucleotides 73 to 1404 of SEQ ID NO: 12;
- (c) nucleotides 73 to 3085 of SEQ ID NO: 12;

- (d) nucleotides 145 to 207 of SEQ ID NO: 12;
- (e) nucleotides 292 to 329 of SEQ ID NO: 12;
- (f) nucleotides 301 to 362 of SEQ ID NO: 12;
- (g) nucleotides 145 to 1404 of SEQ ID NO: 12;
- (h) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (i) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (j) nucleotides 1 to 3085 of SEQ ID NO: 12;

and wherein said polynucleotide encodes a polypeptide with a deletion of the N-terminal, C-terminal or internal regions.

81.(Once amended) A vector comprising the polynucleotide of claim 65.

83.(Once amended) A host cell comprising the polynucleotide of claim 65.

86.(Once amended) An isolated polynucleotide which encodes a polypeptide having glucuronyl C5-epimerase activity and capable of converting D-glucuronic acid to L-iduronic acid, or an isolated complementary polynucleotide, which hybridizes under the conditions of incubation at 42° C in a solution comprising: 6x SSC, 5x Denhardt's solution containing 0.1% SDS and 0.1 mg/ml denatured salmon sperm DNA, followed by washing in 2x SSC and 0.5% SDS at 42° C, to said isolated polynucleotide or its complement, selected from the group consisting of:

- (a) SEQ ID NO: 9;
- (b) SEQ ID NO: 10 and

(c) SEQ ID NO: 11.

93.(Once amended) The polynucleotide of claim 86, wherein said polynucleotide sequence is selected from a member of the group consisting of SEQ ID Nos: 9, 10 and 11 and wherein said polynucleotide encodes a fusion protein.

94.(Once amended) The polynucleotide of claim 86, wherein said polynucleotide sequence is selected from a member of the group consisting of SEQ ID Nos: 9, 10 and 11 and wherein said polynucleotide encodes a polypeptide with a deletion of the N-terminal, C-terminal or internal regions.

95.(Once amended) A vector comprising the polynucleotide of claim 86.

97.(Once amended) A host cell comprising the polynucleotide of claim 86.

Please add the following claims:

103.(New) An isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide, comprising amino acid residues 1-444 of SEQ ID NO: 13.

104.(New) The polynucleotide of claim 103 which is DNA.

105.(New) The polynucleotide of claim 103 which is RNA.

106.(New) The polynucleotide of claim 103, wherein said polynucleotide encodes a polypeptide which is a fusion protein.

107.(New) The polynucleotide of claim 103, wherein said polynucleotide encodes a polypeptide with a deletion of the N-terminal, C-terminal or internal regions.

108.(New) A vector comprising the polynucleotide of claim 103.

109.(New) The vector of claim 108, wherein said vector comprises a transcription unit.

110.(New) A host cell comprising the polynucleotide of claim 103.

111.(New) The host cell of claim 110, selected from the group consisting of Sf9 cells, *E. coli*, 293 human embryonic kidney cells, COS-1 cells and CHO cells.

112.(New) A method of producing a protein that comprises culturing the host cell of claim 110 under conditions such that said protein is expressed, and recovering said protein.